CLAIMS

1. A niobium powder for capacitors, having an average particle size of from 10 to 500 μm, which is a granulated powder having an oxygen content of 3 to 9 % by mass.

2. The niobium powder for capacitors as claimed in claimed 1, wherein the specific surface area is from 0.2 to 15 m^2/g.

3. The niobium powder for capacitors as claimed in claim 1 or 2, which is partially nitrided.

4. The niobium powder for capacitors as claimed in claim 3, wherein the nitrided amount is 10 ~ 100,000 ppm by mass.

5. A sintered body using the niobium powder for capacitors claimed in any one of claims 1 to 4.

6. The sintered body as claimed in claim 5, wherein the specific surface area is from 0.2 to 5 m^2/g.

7. A capacitor fabricated from the sintered body claimed in claim 5 or 6 as one part electrode, a

dielectric material formed on the surface of the sintered body, and another part electrode provided on the dielectric material.

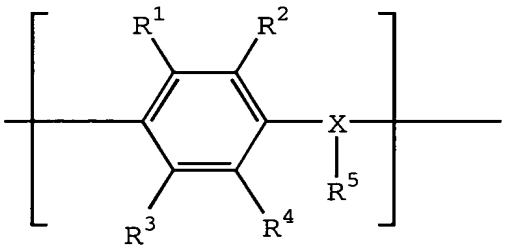
8. The capacitor as claimed in claim 7, wherein the dielectric material is mainly composed of a niobium oxide.

9. The capacitor as claimed in claim 8, wherein the niobium oxide is formed by electrolytic oxidation.

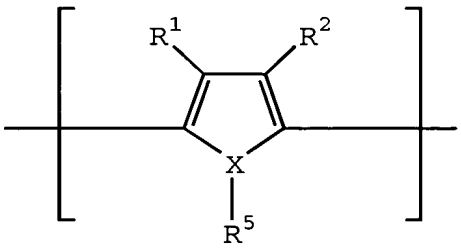
10. The capacitor as claimed in any one of claims 7 to 9, wherein the another part electrode is at least one material selected from an electrolytic solution, an organic semiconductor or an inorganic semiconductor.

11. The capacitor as claimed in claim 10, wherein the another part electrode is composed of an organic semiconductor and the organic semiconductor is at least one organic semiconductor selected from the group consisting of an organic semiconductor comprising a benzopyrroline tetramer and chloranile, an organic semiconductor mainly comprising tetrathiotetracene, an organic semiconductor mainly comprising tetracyanoquinodimethane, and an organic semiconductor mainly comprising an electrically conducting polymer

obtained by doping a dopant into a polymer comprising two or more repeating units represented by the following formula (1) or (2):



(1)



(2)

(wherein R^1 to R^4, which may be the same or different, each represents a hydrogen atom, an alkyl group having from 1 to 6 carbon atoms or an alkoxy group having from 1 to 6 carbon atoms, X represents an oxygen atom, a sulfur atom or a nitrogen atom, R^5 is present only when X is a nitrogen atom and represents hydrogen or an alkyl group having from 1 to 6 carbon atoms, and each of the pairs R^1 and R^2, and R^3 and R^4 may combine with each other to form a ring).

12. The capacitor as claimed in claim 11, wherein the organic semiconductor is at least one member selected from polypyrrole, polythiophene polyaniline and substitution derivatives thereof.

13. A method for maintaining the performance and reliability of a capacitor fabricated from a sintered body of a niobium powder as one part electrode, a dielectric material formed on the surface of the sintered body, and another part electrode provided on the dielectric material, which method comprises:

fabricating the sintered body from a niobium granulated powder having an oxygen content of 3 % by mass or more.

14. A niobium powder for capacitors, having an average particle size of from 10 to 500 μm, which is a granulated powder having an oxygen content of 3 % by mass or more.

15. The niobium powder for capacitors as claimed in claim 14, which is a granulated powder having an oxygen content of 3 to 10.2 % by mass.

16. The niobium powder for capacitors as claimed in claimed 14, wherein the niobium powder has a specific surface area of from 0.2 to 15 m^2/g.

17. The niobium powder for capacitors as claimed in claim 14, which is partially nitrided.

18. The niobium powder for capacitors as claimed in claim 16, which is partially nitrided.

19. The niobium powder for capacitors as claimed in claim 17, wherein the nitrided amount is 10 ~ 100,000 ppm by mass.

20. A sintered body fabricated from the niobium powder for capacitors claimed in claim 14.

21. The sintered body as claimed in claim 20, wherein the specific surface area of the niobium powder is from 0.2 to 5 m^2/g.

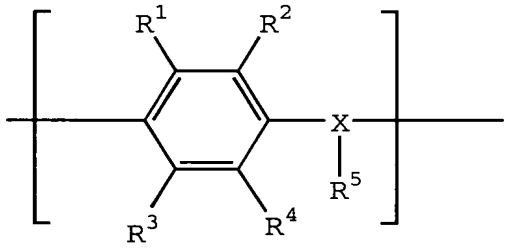
22. A capacitor fabricated from the sintered body claimed in claim 20 as one part electrode, a dielectric material formed on the surface of the sintered body, and another part electrode provided on the dielectric material.

23. The capacitor as claimed in claim 22, wherein the dielectric material is mainly composed of a niobium oxide.

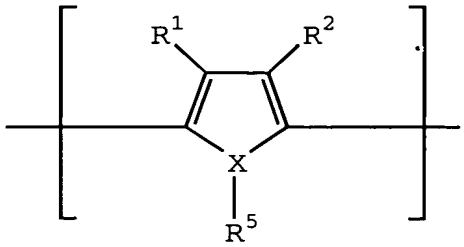
24. The capacitor as claimed in claim 23, wherein the niobium oxide is formed by electrolytic oxidation.

25. The capacitor as claimed in claim 22, wherein the another part electrode is at least one material selected from an electrolytic solution, an organic semiconductor or an inorganic semiconductor.

26. The capacitor as claimed in claim 25, wherein the another part electrode is composed of an organic semiconductor and the organic semiconductor is at least one organic semiconductor selected from the group consisting of an organic semiconductor comprising a benzopyrroline tetramer and chloranile, an organic semiconductor mainly comprising tetrathiotetracene, an organic semiconductor mainly comprising tetracyanoquinodimethane, and an organic semiconductor mainly comprising an electrically conducting polymer obtained by doping a dopant into a polymer comprising two or more repeating units represented by the following formula (1) or (2):



(1)



(2)

wherein R^1 to R^4, which may be the same or different, each represents a hydrogen atom, an alkyl group having from 1 to 6 carbon atoms or an alkoxy group having from 1 to 6 carbon atoms, X represents an oxygen atom, a sulfur atom or a nitrogen atom, R^5 is present only when X is a nitrogen atom and represents hydrogen or an alkyl group having from 1 to 6 carbon atoms, and each of the pairs R^1 and R^2, and R^3 and R^4 may combine with each other to form a ring.

27. The capacitor as claimed in claim 26, wherein the organic semiconductor is at least one member selected from polypyrrole, polythiophene polyaniline and substitution derivatives thereof.

28. An electronic instrument comprising the capacitor as claimed in claim 22.